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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

MAILED

Application Number: 10/829,614
Filing Date: April 22, 2004
Appellant(s): FALKENSTEIN ET AL.

DEC 03 2007
GROUP 1700

Aisha Ahmad
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed September 4, 2007 appealing from the Office action mailed October 12, 2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The Examiner substantially agrees with the statement of the status of claims contained in the brief. However, please note that claim 34 is no longer rejected since claim 34 is cancelled.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

The amendment after final rejection filed on September 4, 2007 has been entered.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The Examiner substantially agrees with the appellant's statement of the grounds of rejection to be reviewed on appeal. Please note that claims of A) and B) were grouped as one rejection by the Examiner.

GROUNDS OF REJECTION NOT ON REVIEW

The following grounds of rejection have not been withdrawn by the examiner, but they are not under review on appeal because they have not been presented for review in the appellant's brief.

Claims 21-22, 24, and 27 rejected under 35 U.S.C. 103(a) as being unpatentable over Berkey et al (US 2004/0050110) in view of Siegmund (US 3,275,428), as applied to claim 18 and in further view of Fekety et al. (US 6,917,741) and Sanghera et al. (US 2005/0025965).

Claim 28 rejected under 35 U.S.C. 103(a) as being unpatentable over Berkey et al (US 2004/0050110) in view of Siegmund (US 3,275,428), as applied to claim 18, and in further view of Fekety et al. (US 6,917,741) and Large et al. (US 2005/0147366).

Claims 19, 30 and 33 rejected under 35 U.S.C. 103(a) as being unpatentable over Berkey et al (US 2004/0050110) in view of Siegmund (US 3,275,428), as applied to claims 18 and 31, and in further view of Fajardo et al. (US 6,847,771).

Claim 32 rejected under 35 U.S.C. 103(a) as being unpatentable over Berkey et al. (US 2004/0050110) in view of Siegmund (US 3,275,428), as applied to claim 31, in further view of Sato et al. (US 7,026,025) and Fekety et al. (US 6,917,741).

(7) Claims Appendix

A substantially correct copy of appealed claim 34 appears on page 12 of the Appendix to the appellant's brief. The minor errors are as follows: Claim 34 is cancelled.

(8) Evidence Relied Upon

A listing of the evidence relied on include:

Berkey et al. US Patent Application Publication 2004/0050110 (Mar 18, 2004), paragraphs [0008], [0033], [0034], [0038], [0047], [0051], [0056], [0074], and [0049]. US 3,275,428 to Siegmund (Sept. 1966).

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 18, 20, 21, 23-26, 29, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berkey et al (2004/0050110) in view of Siegmund (3,275,428).
2. Regarding claims 18 and 31, Berkey et al. disclose a method for making holey fiber comprising:
 - a. stacking a plurality of structures comprising a first structure of a first material (i.e. glass tubes) with a lower softening point and a second structure of a second material (i.e. graphite rods) with a higher softening points to form a bundle containing interstices between the structures ([0008], [0047], [0033], [0034]),
 - b. creating a fused element by heating the bundle to a fusion temperature to soften the first structure such that the first structure flows around a portion of the second structure and closes the interstices between the tubes, and such that the second structure retains shape ([0047]),
 - c. creating a preform having channels therein by removing the second structures from the fused element ([0033], [0047]),
 - d. and drawing the preform to form the holey fiber ([0056]).

However, Berkey et al. fail to disclose a second material having a hollow central portion. Siegmund teaches a method of stacking structures comprising of two different materials with different softening points into bundles (col. 1 lines 27-36, col. 3 lines 30-43), wherein the higher softening point material is etched away after fusing (col. 3 lines 12-16). Furthermore, Siegmund teaches bundles that use solid core parts in making the bundles can result in inefficient removal of the solid parts by etching due to the available exposure of the etchable surfaces. Instead, Siegmund teaches to use structures that are tubular in shape, such as etchable tubes (col. 1 lines 27-41, 62-71). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the tubular shape of the removable second structure of Siegmund in the process of Berkey et al. in order to provide a large surface/opening that can effect the expeditious removal of the etchable material, as taught by Siegmund.

3. Regarding claim 20, Berkey et al. disclose the step of applying a vacuum to the bundle to remove air ([0047]).

4. Regarding claims 21 and 24, Berkey et al. disclose stacking glass tubes and/or rods of a first material and rod of a second material. However, the second material of Berkey et al. is graphite and not glass, nor is it a tube. As mentioned above, Siegmund teaches using etchable glass tubes as the second material structure. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the glass tubes of Siegmund in the process of Berkey et al. in order to provide a large surface/opening that can effect the expeditious removal of the etchable material, as taught by Siegmund.

5. Regarding claim 23, Berkey et al. disclose holey fiber made from stacking structures comprising silica glass and fluorine glass ([0051]).
6. Regarding claim 25, Berkey et al. teaches removal of a sacrificial rod by chemical etching ([0033]). More specifically, Siegmund teaches removing the glass tubes by etching with an aqueous acidic solution (col. 5 lines 40-51). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the aqueous acidic solution of Siegmund in the process of Berkey et al. in order to remove the glass tubes of second material efficiently, while still obtaining the desired channels.
7. Regarding claim 26, Berkey et al. disclose using graphite rods as the higher softening point structure that is removed via heating in an oxidizing environment ([0034], [0074]).
8. Regarding claim 29, Berkey et al. disclose providing a clad tube of first softening point material ([0049]). Siegmund also teaches placing the bundle in a glass tube form of the same first material with the same lower softening point, and filling spaces between the tube and structures during fusing (col. 4 line 70 to col. 5 line 12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the clad tube with the same lower softening point of Siegmund in the process of Berkey et al. in order form a homogenous clad layer.

(10) Response to Argument

A). The first ground of rejection to be reviewed on appeal, with reference to page 3 of the Final Office Action dated October 12, 2006, is whether claims 18 and claims 19-30 are patentable over Berkey in view of Siegmund.

The applicant argues that the sacrificial rod of Berkey et al. is solid and does not have a hollow central portion. This is correct. Hence, the reason for the U.S.C. 103 rejection presented in view of Siegmund, who teaches using a tube-shaped sacrificial structure.

The applicant argues that cutting is done to etch the remaining tubules that are now two narrow to receive the etchant all the way through the tubules in the Siegmund reference. This argument is unsupported by any evidence and is merely speculative. The Siegmund reference was used to teach using tube shaped sacrificial structures instead of solid rod shaped sacrificial structures so that more surface area is exposed to the etchant, allowing for more efficient processing. The applicant appears to be indicating that some reference was made to the size of the tubes used, as indicated by the applicant's description of tubes being "narrow". Furthermore, the applicant points to an exhibit wherein the specifically sized tubes of Siegmund cannot be used in the method of Berkey. The Examiner has not presented any reference to the size of the tubes used, but instead to the use of sacrificial structures having a tubular shape.

The applicant argues that the entirety of the Siegmund reference should be considered. More specifically, the applicant argues that the tubules of Siegmund are drawn first and then a preform is created which teaches away from the claimed

invention. The Siegmund reference was considered in its entirety and is determined to be analogous art, wherein structures with different softening points are bundled and structures with a higher softening point are subsequently removed after fusing of the bundle. Siegmund specifically and clearly teaches utilizing tube-shaped sacrificial structures and provides clear motivation for substituting solid rod shaped sacrificial structures with tube-shaped sacrificial structure, as presented in the rejection. Siegmund was not relied upon to teach a sequence of steps, for instance a drawing step, since Berkey already discloses the claimed method steps and the sequencing of the steps. Also, the prior art's disclosure of alternatives does not constitute teaching away from these alternatives because preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments.

B). The second ground of rejection to be reviewed on appeal, with reference to page 3 of the Final Office Action dated October 12, 2006, is whether independent claim 31 and claims 32-34 are patentable over Berkey in view of Siegmund.

The applicant refers the same arguments presented with respect to claim 18 above, since both claims include similar, if not identical, limitations. In response, the Examiner will apply the same response presented to the arguments with respect to claim 18 to claim 31.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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